ABSTRACT OF THE DISCLOSURE

Decoding apparatus comprises EX-OR circuit
exclusive ORing the Reed-Muller code and exclusive
Ored value of mask symbol candidate pattern and the
5   information data corresponding to the pattern, first
decoder calculating checksum of the EX-OR circuit
output and majority-judging the checksum to decode
a part of the second portion of the information data,
second decoder exclusive ORing the EX-OR circuit output
10   and a product of the part of the second portion and
the orthogonal codes and majority-judging the exclusive
OR result to decode a remaining part of the second
portion, Reed-Muller encoder encoding the information
data, and minimum detector detecting the minimum of
15   Euclidean distance between an output from the Reed-
Muller encoder and the Reed-Muller code supplied to
the arithmetic operation unit while a plurality of
candidate patterns of the mask symbols are supplied to
the arithmetic operation unit.